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Kentucky Laboratory Certification Program

Requirements for Using Method Modification for Wastewater Compliance Sample Analysis

Wastewater laboratories that wish to utilize the EPA Method Modification Procedure (specified in 40 CFR 136.6) for the analysis of KPDES compliance samples must notify Kentucky Division of Water (DOW) of their intent, prior to performing any required analysis. Once DOW approves the scope of the method modification, laboratories must complete and submit the following:

1. Provide a side by side comparison of the modified method performance to the approved method to demonstrate the method is capable of yielding reliable data:
 - Low level concentration spike to be performed 5 times using distilled (DI) water;
 - Mid level concentration spike to be performed 5 times using DI water;
 - High level concentration spike to be performed 5 times using DI water;
 - Mid level concentration spike to be performed 5 times using matrix;
 - % Relative Standard Deviation (RSD) must be <20% for both DI water & matrix spiked concentrations. The quality of the calibration may be evaluated using the Relative Standard Error (RSE). The acceptance criterion for the RSE is the same acceptance criteria for the RSD in the method.
2. Provide a Method Detection Limit (MDL) as required by 40 CRF 136.6(b)(1):
 - Analyst name and instrument ID specified;
 - Required reporting limit and units correctly listed;
 - Analyze 7 laboratory fortified blanks (LFB) over 2 to 3 non-consecutive days;
 - Spike concentration 3-5 times the expected minimum reporting limit (MRL);
 - Calculated MDL <10x spike concentration;
 - MDL < MRL < Required Reporting Limit (RRL).
3. Provide an Initial Demonstration of Capability (IDC) as required by 40 CFR 136.6(b)(1):
 - Analyst name and instrument ID specified;
 - RRL and units correctly listed;
 - Comparable results using 4 representative effluents performed on different days;
 - Each IDC within +/- 20% of the mean;
 - % RSD <15%.

4. Laboratory copy of a successful proficiency testing (PT) study for the requested analyte using the modified method. Laboratories utilizing a modified method during a PT Study must report the use of a method modification to their PT Provider, specified with the reference method.
5. The modified method standard operating procedure (SOP) must clearly document the modifications made to the reference method as required by 40 CFR 136.6(b)(1). At a minimum, the SOP must include the following:
 - Initial demonstration of capability (IDC);
 - Method detection limit (MDL) study;
 - Minimum reporting limit (MRL);
 - Precision results (duplicate percent relative standard deviation);
 - Accuracy (spike percent recoveries);
 - Method blanks;
 - Mid-level laboratory control samples;
 - Matrix spikes;
 - Specify how results are going to be reported utilizing the modified method (e.g. Reference Method xxxx-M)
6. Maintain all records associated with the procedure for the duration of method use as per 40 CFR 136.6(ii).
7. Notify the Kentucky Laboratory Certification Program after completion of the method modification procedure. Kentucky Division of Water (DOW) will review the submitted method modification request material and make any applicable recommendations to EPA as to whether DOW deems the method modification to be acceptable or not. (40 CFR 136.6(b)(1).
8. Obtain acceptance notification from KY DOW and EPA (if applicable) for the use of the modified method as per 40 CFR 136.6(b)(1).
9. Method modifications can only be made to currently approved EPA methods, as specified in 40 CFR 136.6(b)(1).
10. Once approved, laboratory must utilize the modified method, as approved, for wastewater compliance sample analysis.

Please submit all required documents listed above along with any other pertinent information to Kentucky Laboratory Certification Program (KLCP) by email at dowlabcertification@ky.gov or at the following address:

Kentucky Department for Environmental Protection
Division of Water / Laboratory Certification Program
200 Fair Oaks Lane, 4th Floor
Frankfort, KY 40601

For clarification of requirements as listed above, please contact Kentucky Laboratory Certification Program. Utilize the web page below for technical assistance and contact information.

<http://water.ky.gov/permitting/Pages/labcert.aspx>